

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(pursuant to NAC 445A.236)

Permittee Name: Nevada Cement Company
P. O. Box 840
Fernley, NV 89408

Permit Number: NEV92007

Flow: 0.720 MGD (30-day average)

Well Head Protection:

The facility is not within the 2-, 5-, or 10-year capture zones for any well head protection program.

General:

The facility is a Portland cement manufacturing plant, comprised of two coal/natural gas fired calcining kilns and associated appurtenances. Raw materials are mined off-site and transported a short distance from the quarry by trucks. Calcareous (lime containing) and argillaceous (clayey) raw materials are proportionally blended, ground, roasted in the kilns and then pulverized to form the final cement product.

The facility is currently permitted to discharge non-contact cooling water, used to cool bearings and other rotating equipment, to groundwaters of the State of Nevada at a rate of 720,000 gallons per day. Cooling water is obtained from two on-site wells. The water is circulated through internal cooling system tubing that does not allow the water to come in direct contact with oil, grease or process materials in the equipment. The cooling water exiting the equipment has an elevated temperature. The water is sent to a cooling tower to lower the temperature; water from the cooling tower discharges to a holding basin. The water is then conveyed from the holding basin through an underground pipe which surfaces and discharges to an on-site evaporation/percolation ditch. No cooling water is allowed to flow off-site.

Location

The Nevada Cement facility is located in Lyon County, just south of the Washoe County line and approximately 5000 feet east of the Storey County line. The facility is immediately north of Interstate 80 Exit 46 (West Fernley exit).

Latitude: 39° 37' 19"N

Longitude: 119° 15' 47"W

Township 20N, Range 24E, Section 2, 3, 10 & 11

Receiving Water Characteristics:

Groundwater is encountered at approximately 71 feet below surface. Flow is generally to the northwest. The facility is at the edge of the 7000-foot buffer zones of three public water supply wells. Cooling water for the facility is supplied by two groundwater wells. Analyses of groundwater quality over the term of the current permit indicate background concentrations of Arsenic (0.069

mg/l versus U. S. EPA primary drinking water standard of 0.05 mg/l), Manganese (0.078 mg/l versus secondary drinking water regulation of 0.05 mg/l), and Total Dissolved Solids (570 mg/l versus secondary drinking water regulation of 500 mg/l). Elevated Arsenic concentration in the groundwater is a historically common condition in the local area.

Effluent Characteristics.

Non-contact cooling water is discharged to the aquifer from which it is pumped. Effluent from the facility is monitored quarterly for flow, pH, and Total Dissolved Solids (TDS). Results for the period of 2000 through 2003 are the following: 30-day Average Flow of 574,000 gallons per day (versus permit limit of 720,000 gallons per day); Daily Maximum Flow of 621,000 gallons per day; Average pH of 8.11 Standard Units (versus permit limits of 6.5 to 9.0 Standard Units); and TDS of 481 mg/l. Annual monitoring of both source well water and discharge water for common groundwater metallic and ionic constituents (including arsenic, copper, iron, manganese, zinc, sulfate, nitrate, nitrite, chloride, etc.) indicate that the groundwater has not been degraded by non-contact cooling water discharge.

Procedures for Public Comment:

The notice of the Division's intent to issue a permit authorizing the facility to discharge to the groundwater of the State of Nevada subject to the conditions contained within the permit is being sent to the **Reno Gazette-Journal** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of 30 days following the date of the public notice. In order to be considered, written comments must be hand-delivered, sent via mail (postmarked), emailed or faxed no later than 5:00 P.M. on **September 10, 2004**. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons.

The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determined to be appropriate. All public hearings must be conducted to accordance with NAC 445.150.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445.274.

Proposed Effluent and Groundwater Limitations

Discharge from the facility will be limited and monitored as follows:

<u>PARAMETERS</u>	<u>PERMIT LIMITATIONS</u>		<u>MONITORING REQUIREMENTS</u>	
	EFFLUENT (30 day Avg.)	WELL WATER	Measurement Frequency	Sample Type
Flow (MGD)	0.720		Weekly	Measure
pH (SU)	6.5 - 9.0		Quarterly	Discrete
TDS (mg/l)	M & R (1)		Quarterly	Composite
pH (SU)	M & R (2)	M & R (2)	Annually	Discrete
TDS (mg/l)	M & R (2)	M & R (2)	Annually	Discrete
Alkalinity as CaCO ₃ (mg/l)	M & R (2)	M & R (2)	Annually	Discrete
Total Hardness as CaCO ₃	M & R (2)	M & R (2)	Annually	Discrete
Oil & Grease	M & R (2)	M & R (2)	Annually	Discrete
Arsenic (mg/l)	M & R (2)	M & R (2)	Annually	Discrete
Barium (mg/l)	M & R (2)	M & R (2)	Annually	Discrete
Boron (mg/l)	M & R (2)	M & R (2)	Annually	Discrete
Calcium (mg/l)	M & R (2)	M & R (2)	Annually	Discrete
Chloride (mg/l)	M & R (2)	M & R (2)	Annually	Discrete
Copper (mg/l)	M & R (2)	M & R (2)	Annually	Discrete
Fluoride (mg/l)	M & R (2)	M & R (2)	Annually	Discrete
Iron (mg/l)	M & R (2)	M & R (2)	Annually	Discrete
Nitrate + Nitrite as N (mg/l)	M & R (2)	M & R (2)	Annually	Discrete
Potassium (mg/l)	M & R (2)	M & R (2)	Annually	Discrete
Magnesium (mg/l)	M & R (2)	M & R (2)	Annually	Discrete
Manganese (mg/l)	M & R (2)	M & R (2)	Annually	Discrete
Sodium (mg/l)	M & R (2)	M & R (2)	Annually	Discrete
Sulfate (mg/l)	M & R (2)	M & R (2)	Annually	Discrete
Zinc (mg/l)	M & R (2)	M & R (2)	Annually	Discrete

M & R (1): Monitor and Report on Quarterly DMR

M & R (2): Monitor and Report on BWPC Attachment A and submit with 4th Quarter DMR

Proposed Determination

The Division has made the tentative determination to renew the proposed permit for a period of five (5) years.

Rationale for Permit Requirements

Monitoring is required to ensure that the discharged non-contact cooling water continues to remain unchanged following the cooling process in order to prevent the contamination of groundwater.

Prepared by: Janine O. Hartley
Staff Engineer II
August 2004